

We claim:

1. A system for monitoring an ergonomic motion, the system comprising:
 - a. a means for capturing a video image of a person executing the ergonomic motion;
 - b. a means of processing the video image wherein a predetermined spatial region within the video image may be defined, the spatial region corresponding to a preferred execution area of the ergonomic motion;
 - c. a means of storing a the video image for a predetermined interval;
 - d. a means of comparing the video image stored in the means for storing for a predetermined interval to a real time video image; and
 - e. an alarm means, wherein when the ergonomic motion is executed within a limit of the spatial region the, alarm means is not actuated, and wherein when the ergonomic motion exceeds the limit of the spatial region, the alarm means is actuated.
2. The system of claim 1, wherein the ergonomic motion is selected from the group of activities consisting of golf, tennis, soccer, basketball, football, baseball, dance, weight lifting, physical rehabilitation exercises, animal training and racing.
3. The system of claim 2, wherein the alarm means is selected from the group consisting of aural stimuli, optical stimuli, physical sensation stimuli, and mechanical alarms.
4. The system of claim 3, further comprising a user interface, wherein the user may actuate the user interface to adjust the dimensions and position of the spatial region.
5. The system of claim 4, wherein the means of processing the video image comprises:
 - a. a means for separating the video image into a horizontal component and a vertical component;

b. a means for defining a horizontal segment during which the video image is to be interrupted;

c. a means for defining a vertical segment during which the video image is to be interrupted; and

d. a switch for interrupting the video image when the image is within both the horizontal segment and the vertical segment;

wherein the combination of the horizontal element and the vertical element comprise a definition of the spatial region.

6. The system of claim 4, wherein the means of processing the video image comprises software operating on a computer.

7. A system for a person executing an athletic motion, for example a golf swing, the system comprising:

a. a means for capturing a video image, the means being capable of capturing successive images of the person executing the athletic motion;

b. a means for processing the video image, wherein a predetermined spatial region within the video image may be defined, the spatial region corresponding to a preferred execution area of the athletic motion;

c. a means for comparing a current video image to a previous video image; and

d. an alarm means that is actuated when the means for comparing determines that the person has exceeded a limit of the predetermined spatial region.

8. The system of claim 7, further comprising adjusting means, wherein the user may actuate the adjusting means to alter the position and dimensions of the predetermined spatial region to suit a particular athletic motion.

9. The system of claim 8, wherein the spatial region defines a preferred area of movement in a properly executed athletic motion of a component selected from the group consisting of hands, head, shoulders, legs, hips, knees, arms, torso, a golf club shaft and a golf club head.

5 10. The system of claim 9, wherein the alarm means is selected from the group consisting of aural stimuli, optical stimuli, physical sensation stimuli, and a target manipulation device.

11. The system of claim 10, further comprising a video monitor capable of displaying both the video image and the predetermined spatial region.

12. The system of claim 11, wherein the alarm means comprises a target manipulation device, the target manipulation device comprising a golf tee manipulation device, further wherein the golf tee manipulation device removes a golf ball from the intended path of a golf club by lowering a golf tee having the golf ball resting thereupon.

13. The system of claim 12, wherein the means of processing the video image comprises:

a. a means for separating the video image into a horizontal component and a vertical component;

b. a means for defining a horizontal segment during which the video image is to be interrupted;

c. a means for defining a vertical segment during which the video image is to be interrupted; and

20 d. a switch for interrupting the video image when the image is within both the horizontal segment and the vertical segment;

wherein the combination of the horizontal element and the vertical element comprise a definition of the spatial region.

14. A method for teaching a person to make an athletic motion, the method comprising the steps of:

- a. providing a means for capturing a video image, the means being capable of capturing successive images of the person executing the athletic motion;
- b. providing a means for processing the video image, such that a predetermined spatial region within the video image may be defined, the predetermined spatial region corresponding to a preferred space of execution of the athletic motion;
- c. providing a means for comparing a current video image to a previous video image;
- d. providing an alarm that is actuated when the means for comparing determines that the person has exceeded the predetermined spatial regions;
- e. defining the predetermined spatial region to correspond with the athletic motion; and
- f. making an athletic motion;

wherein if the athletic motion exceeds the spatial region during execution, the alarm is actuated.